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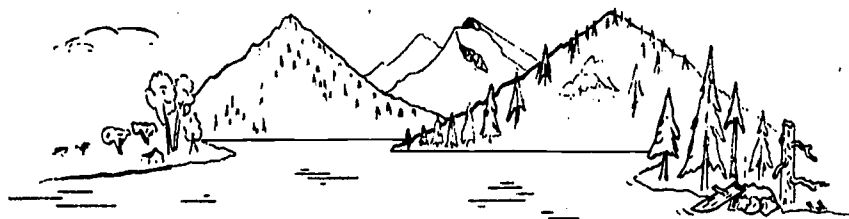
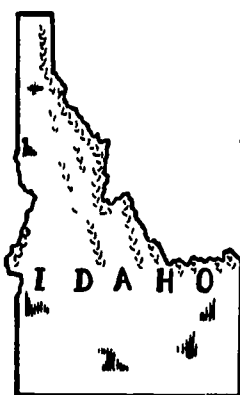
The Idaho State Occupational Unit completed a total life of 3 years and 4 months as of September 30, 1968. This document views past accomplishments, and looks to the future role and function of the Unit as it enters a new 5-year continuation. The function and role of the Unit has been built around four major purposes and objectives: (1) conduct research, (2) coordinate research, (3) stimulate new research, and (4) provide consulting services. The Unit has conducted several research projects either individually or in cooperation with other organizations and agencies. There were 19 projects either completed or in progress at the close of this period. A total of 15 research publications have been issued. A shortage of research manpower was noted as a major and continuing problem. There will be a change to research oriented toward theoretical concepts rather than answering specific questions related to local education needs. (MM)

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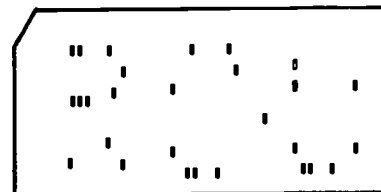
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**INTERIM REPORT**  
**Project No. OE-6-3014**  
**Grant No. OEG-4-7-063014-1590**

## **Continuation of the State Occupational Research Unit**



**October 1968**



**U.S. DEPARTMENT OF  
HEALTH, EDUCATION, AND WELFARE**

**Office of Education  
Bureau of Research**

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U.S. DEPARTMENT OF  
HEALTH, EDUCATION, AND WELFARE

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## INTRODUCTORY SECTION

### Summary

The State Occupational Research Unit\* completed another 19 months of operation which, combined with the first 21-month period, constitutes a total life of 3 years and 4 months as of September 30, 1968. This is an interim report which views past accomplishments against the backdrop of the early months of establishment and operation, and which looks to the future role of the Unit as it enters a new 5-year continuation period.

The function and role of the Unit has been built around four major purposes and objectives relative to the program of vocational-technical education in Idaho: (1) conduct research, (2) coordinate research, (3) stimulate new research, and (4) provide consulting services. Progress has been made toward all of these, and they will continue to define the basic function and role of the Unit in the years ahead.

The methods developed by the Unit staff to achieve the four major purposes and objectives were largely organized during the first period of 21 months. Methods of contact, public relations, attendance at professional meetings, the use of professional auxiliary personnel, and advisory committee memberships all were well established early in the life of the Unit. The past 19 months have been characterized by a continued use of these methods and resources.

The Unit has conducted several research projects either individually or in cooperation with other organizations and agencies. There were 14 projects either completed or in progress at the close of the first 21 months. Work continued on several of these projects during the last 19 months, and 5 new projects were organized. A total of 15 research publications have been issued, and more are in preparation.

The future development of the Unit will continue along the same broad lines of activity which have characterized its existence thus far. The extent to which the major purposes and objectives will be realized depends largely upon the availability of research personnel and resources. Research and development in vocational-technical education are indispensable if the state of Idaho is to realize its highest capabilities in this important area of education.

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\*The original title was rather lengthy: State Occupational Research and Development Coordinating Unit. This was shortened to State Occupational Research Unit. The title Research Coordinating Unit (or RCU) is a generic title which has come into common use for all 46 Units currently operating in the United States. The single word Unit will be used frequently in this report.

## Introduction

The State Occupational Research Unit completed the original contract of 21 months on February 28, 1967. A final report (Reference 10, p. 25; Appendix, pp. 26-44) was prepared which described the organization and subsequent activities of the Unit. A number of research projects were conducted during the original contract period, and brief resumes and references were included in the first final report.

The present document is an interim report of the first 19 months of operation under a continuation grant from the Bureau of Research, U.S. Office of Education, which began March 1, 1967 and was scheduled to end September 30, 1968. This grant provided \$91,424 in Federal funds. State and local contributions were set at \$38,180, yielding a total of \$129,604 for operating expenses over the 19-month period. A proposal was submitted on April 15, 1968 requesting continuation of the Unit for a 5-year period. Late in June the 5-year continuation was approved. During the present month of October, the budget was approved for the first year of operation under an extension of the same Federal grant. This provides \$30,000 for the operation of the Unit per se, and an additional \$20,000 for the RCU Discretionary Award Program (more about this later). State and local contributions were set at approximately \$30,000, yielding a total of \$80,000 for the first year.

The present report is, in a real sense, a continuation of the first final report issued in March, 1967. Since the earlier report was not too lengthy, the entire contents, excluding covers, have been reproduced and are included as an appendix to the present report. The State Occupational Research Unit is at a critical point in its development. It seemed important, therefore, to issue a document which would cover the entire period of operation. Another value is that much of the material in the earlier report is still relevant, and would have required repetition, or numerous references to the earlier report which might not always be conveniently at hand. The contents are arranged in a logical time sequence. The earlier sections of the report will present important highlights of the 19-month period ending on September 30, 1968. Later sections will include a brief assessment of the current status of the Unit and plans and recommendations for future development.

## Purposes and Objectives

The original proposal which resulted in the establishment of the Unit contained a number of purposes and objectives. These were listed, together with a discussion of the progress made toward each, in the first final report (Appendix, pp. 28-31). The continuation proposal for the last 19 months, submitted in June, 1966, contained essentially the same list of purposes and objectives. Therefore, most of the activities of the Unit have been a continuation of basic patterns which were developed during the first 21 months. It should

suffice here to mention only those changes and significant new developments which have occurred in recent months.

Four basic purposes and objectives were to (1) conduct research, (2) coordinate research, (3) stimulate new research, and (4) provide research consulting services. Research studies completed and still in progress are presented later in this report. Coordination of research has developed almost naturally from the many personal acquaintances and individual contacts made by the Unit staff. Coordination has been relatively easy because, unfortunately, Idaho still continues to have relatively little research activity in the vocational-technical field. This has implications also for the fourth objective of providing research consulting services. Consultation is of necessity quite limited where research efforts and resources are few in number.

The picture is a little brighter, however, in respect to the stimulation of new research. The June, 1966 proposal, in addition to requesting funds for the Unit's last 19 months of operation, contained a request for funds to conduct a follow-up study of high school graduates of two large high schools in Idaho. This project was approved along with the Unit's continuation, and the study was sub-contracted to a local school district. The follow-up study actually was initiated before the original contract was completed, and was finished after only 5 months had expired in the new grant period. More details are reserved for the next major division of this report entitled Findings and Analysis.

The Unit has continued to issue a news bulletin to a mailing list of nearly two hundred persons and organizations both within and outside Idaho (Appendix, "a," pp. 28-29, and "f," p. 32). Various issues have included reports of ongoing research projects, references to new publications, activities of the Unit's staff members, and others. Early in 1967, the bulletin carried a series of articles describing the program and activities of Idaho's five area vocational schools. The bulletin was last issued as a monthly publication in November, 1967. Pursuant to a recommendation of the Unit's State Advisory Committee, the bulletin was issued as a quarterly publication beginning in January, 1968.

During its first 3 years and 4 months of existence, the Unit provided opportunities for research training for 10 persons, including 9 part-time research assistants and 1 assistant director. All were in the graduate program of the College of Education. Three completed Master of Science degrees in psychology, and obtained jobs in the state of Washington as school psychologists. The remainder, when assigned, were working toward the doctorate in various fields. As of this writing, two have completed their work, and received their doctoral degrees in the June, 1968 commencement exercises.

One new objective was included in the June, 1966 proposal. The Unit staff stated that they would conduct surveys of literature relating to career development theory and the sociology of work, and

would design and coordinate research projects relating to these two fields of knowledge. A research project concerned with career choice and development of vocational school students actually was designed and data collections were begun prior to the end of the original 21-month contract (Appendix, "n," p. 39). A second study in this area was initiated which utilized concepts both from career development theory and the sociology of work (see "c," pp. 13-14).

The purposes and objectives stated in the third proposal submitted in April, 1968, and which covers a 5-year period through September, 1973, still resemble those stated in the first two proposals which covered the first 3 years and 4 months of operation. There are some differences, however, sufficient to justify a complete listing of the purposes and objectives in a later section of this report (see pp. 17-18).

### Methods

This section of the present report most logically relates to two of the four broad objectives stated above, namely research coordination and the stimulation of new research. Research consulting services also were provided by several of the auxiliary personnel listed in this section. The actual conduct of research projects, involving auxiliary personnel, Unit staff members, and others is the main focus of the next major division of this report entitled Findings and Analysis.

The first final report (Appendix, pp. 31-35) contains a section on Method, much of which is still a timely description of the Unit's activities. Methods of contact, such as radio and newspaper releases, individual contacts, speeches to professional groups, and group conferences have continued to play an important part in the Unit's program of activities. Contacts have been made and have been continued with any agencies and organizations likely to have ongoing vocational programs, or which might contribute to certain individual research projects. The list of agencies and organizations included in the first final report (Appendix, p. 33) still reflects a fairly adequate coverage of the state. The contacts made have resulted in a number of personal acquaintances between the Unit staff and influential individuals throughout Idaho. As a result, individual contacts, either by phone or in person, have emerged as the most useful and effective means of research coordination and stimulation.

The sections under Method of the first final report also included a listing of conferences attended by Unit staff members, and lists of advisory and auxiliary personnel who made some contribution to the Unit's operation. It seems appropriate to update and include these sections in the present report, even though there will be some duplication.

The Conferences, Institutes, and Workshops attended by one or more staff members of the Unit were as follows. The Unit's staff

member in attendance was directly involved in the activities of a number of these, and a brief description of the involvement is given where this is appropriate.

- Annual Convention of the American Personnel and Guidance Association, Dallas, Texas, March, 1967.
- Region VIII Conference on Vocational-Technical Education, sponsored by the U.S. Office of Education as one of nine regional conferences, Denver, Colorado, April, 1967.
- First Annual Governor's Conference on Economic Development, sponsored by the Idaho Department of Commerce and Development, Boise, Idaho, June, 1967.
- Annual Conference for School Administrators and Trustees, Sun Valley, Idaho, August, 1967. (The major theme of this conference was vocational-technical education in Idaho. The Director of the Unit presented on the research program)
- Training Conference on the Dissemination and Use of Materials Available Through the Educational Research and Information Center (ERIC), The Ohio State University, Columbus, Ohio, October, 1967.
- Sixteenth Annual Meeting of the Agricultural Education Northwest Research Council, University of Idaho, Moscow, Idaho, November, 1967. (The Assistant Director of the Unit presented a paper on the study of agriculturally-related occupations recently completed by the Unit)
- Annual Convention of the American Vocational Association, Cleveland, Ohio, December, 1967. (The Assistant Director attended a pre-convention seminar on multivariate statistical analyses)
- Vocational-Technical Education Workshop for Counselors, sponsored by Boise State College, Boise, Idaho, March, 1968.
- National RCU Conference on Diffusion of Educational Ideas, Michigan State University, Lansing, Michigan, March, 1968.
- The Third Annual Western States RCU Conference, Las Vegas, Nevada, April, 1968. (The Director of the Unit presented, as did representatives from RCUs in several other western states, on the activities of the past year and plans for the future)
- Annual Meeting of the Idaho Psychological Association, Idaho State University, Pocatello, Idaho, April, 1968. (The Assistant Director of the Unit presented on the Unit's research program, and discussed sources of funding for research projects)
- Research Orientation Meeting at the Rocky Mountain Educational Laboratory, Greeley, Colorado, June, 1968.
- Vocational Teacher Training Conference, sponsored by the Idaho State Board for Vocational Education, held at Boise State College, Boise, Idaho, June, 1968.
- Second Annual Governor's Conference on Economic Development, sponsored by the Idaho Department of Commerce and Development, Boise, Idaho, June, 1968.

- Conference on Manpower Information for Vocational-Technical Education, University of Connecticut, Storrs, Connecticut, July, 1968.
- Institute on Occupational Analysis as a Basis for Curriculum Development, Colorado State University, Fort Collins, Colorado, July-August, 1968.
- Institute on the Operation of Educational Information Service Centers, University of California at Los Angeles, California, August, 1968.
- Workshop on the Image of the World of Work, sponsored by the Rocky Mountain Educational Laboratory in Greeley, Colorado and in Cheyenne, Wyoming, August, 1968. (The Director of the Unit served as a resource consultant during the conduct of this workshop)
- Citizen's Conference on Vital Issues for Vocational-Technical Education, coordinated by the University of California, Berkeley, California, and held in San Francisco, California, October, 1968.
- Annual Meeting of the Idaho Personnel and Guidance Association, University of Idaho, Moscow, Idaho, October, 1968.

Each of the above, in addition to those instances where the Unit's staff were directly involved, afforded opportunities for professional growth, and contacts with other researchers and professionals in a wide variety of fields. Several new developments and ideas presented at these meetings have found direct expression in the Unit's research program.

Auxiliary Personnel at the University of Idaho, and in the Idaho State Board for Vocational Education, have made significant contributions to the Unit and to the general program of vocational-technical education in the state. The following staff members at the University of Idaho made important contributions to the Unit. Their titles also reflect the variety of resource personnel available to the Unit as a concomitant value of its association with the University of Idaho.

- Dr. Thomas O. Bell, Assistant Dean, College of Education.
- Dr. Gladys I. Bellinger, Professor and Head, Home Economics Department.
- Dr. William R. Biggam, Professor and Head of Industrial Education.
- Dr. Edward R. Brogly, Assistant Professor of Psychology.
- Dr. Donald Duncanson, Professor of School Administration.
- Dr. Sydney Duncombe, Associate Professor of Political Science and Associate Director of the Bureau of Public Affairs Research.
- Dr. Kenneth A. Ertel, Associate Professor of Education and Teacher Educator for Distributive Education.
- Dr. Edward L. Kelly, Associate Professor of Education and Director, Bureau of Educational Research.

- Dr. Robert M. Kessel, Professor of Education and Head, Department of Office Administration.
- Dr. Dwight L. Kindschy, Professor of Agricultural Education.
- Dr. Oscar E. Kjos, Associate Professor of Psychology and State Vocational Counselor Educator.
- Dr. Victor E. Montgomery, Professor and Head, Department of Psychology.
- Dr. Norman Nybrotten, Professor of Economics and Associate Director of the Bureau of Business and Economic Research.
- Dr. Everett V. Samuelson, Dean of the College of Education.
- Mr. Herbert A. Winner, Professor and Head, Department of Agricultural Education.

The following are (or were during part of the 19-month period) members of the Idaho Vocational Board who contributed in various ways to the Unit's operation.

- Mr. Ralph Edwards, Supervisor, Agricultural Education.
- Mr. Sam R. Glenn, Director, Idaho State Board for Vocational Education. (Deceased August, 1968; replaced by Roy Irons)
- Mr. Kenneth Hansen, Assistant Supervisor, Agricultural Education.
- Mr. Roy D. Irons, Director, Idaho State Board for Vocational Education. (Formerly Coordinator, Manpower Development and Training)
- Mrs. Janet Latham, Assistant Supervisor, Home Economics Education.
- Mr. John A. McDaniels, Supervisor, Trade and Technical Education.
- Mrs. Carmen Miller, Supervisor, Health Occupations.
- Mr. Roger Sathre, Supervisor, Distributive and Office Occupations.
- Mr. William Swenson, Assistant Director, Idaho State Board for Vocational Education.
- Mrs. Helen Wilson, Supervisor, Home Economics Education.

The State Advisory Committee was composed of the following individuals who served the Unit for all or a part of the 19-month period. Their titles and affiliations reflect a healthy variety of disciplines which are concerned with vocational-technical education and which have a significant contribution to make to its development in Idaho.

- Addison C. Beeman, Chief of Research and Analysis, Department of Employment, Boise.
- Darrel H. Dorman, President, Idaho State AFL-CIO, Boise. (Replaced by Robert W. Macfarlane in meeting of November, 1967)
- Del F. Engelking, Superintendent of Public Instruction, State Department of Education, Boise.

- Sam R. Glenn, Director, Idaho State Board for Vocational Education, Boise, ex officio. (Replaced by the new Director, Roy D. Irons, in September, 1968)
- Frank Hirschi, Utah State University, Logan, Utah (doctoral candidate); formerly Representative, Bear Lake County and Chairman, Education Committee, House of Representatives.
- Dr. Angus McDonald, Jr., Boise Public Schools, Boise; Past President, Idaho Personnel and Guidance Association.
- Robert W. Macfarlane, President, Idaho State AFL-CIO, Boise.
- Elmo Parish, Office Manager, Blue Cross Insurance; Member Administrative Management Society, Boise.
- Ray W. Rigby, Senator, District # 28; Member, Senate Education Committee, Rexburg.
- Leon F. Scott, Personnel Manager, Lamb-Weston, Inc. (potato processor), American Falls. (Mr. Scott recently separated from this company. His new position and title were not available as we went to press)
- Harold A. Taylor, Director of Special Services, Department of Public Assistance, Boise.
- Dr. James L. Taylor, President, College of Southern Idaho, Twin Falls.
- Stanley Trenhaile, Idaho Commissioner of Agriculture, Boise.
- Earl Vopat, Superintendent, Grangeville Joint District # 241, Grangeville; Past President, Idaho Association of School Superintendents.

The State Advisory Committee was assembled for its second meeting on February 24, 1967, only a few days before the end of the first contract period. The Committee decided that, in order to serve the Unit more effectively, meetings should be held three times a year and should be organized around some central theme of importance to vocational-technical education. Accordingly, the following meetings, organized around a central theme, have been held or are scheduled.

- Third Meeting, "Agriculturally-Related Occupations in Idaho," College of Southern Idaho, Twin Falls, May, 1967. Preliminary results were available of the study of agriculturally-related occupations conducted by the Unit (see "b," p. 10). A report also was given on the new Agri-Business Program at the College of Southern Idaho.
- Fourth Meeting, "Methods, Sources, and Resources for Long-Range Labor Force Projections for Idaho," University of Idaho, Moscow, November, 1967. Mr. Beeman, Advisory Member from the Idaho Department of Employment, presented on recent work by the Federal Department of Labor on an Occupation-Industry matrix which may prove useful for long-range labor force projections. Dr. Bell

from the University College of Education reported on the Idaho School District Organization Project (see last entry, p. 16).

- Fifth Meeting, "Multi-District Arrangements for Vocational Education Programs," Snake River Center for the Improvement of Instruction, Idaho Falls, April, 1968. The meeting focused on the progress made in this area by six school districts as they attempted to pool their resources and provide vocational programs for students at the secondary level. The Committee also was given a report on the program of the Snake River Center which was designed to provide a wide range of services to 18 school districts in the southeastern Idaho area.
- Sixth Meeting, "Current Status and Anticipated Trends in Production Agriculture in Idaho," College of Southern Idaho, Twin Falls, scheduled for November 8, 1968.

It is evident that the sixth meeting, scheduled for early November, will be the second meeting for 1968. Attempts were made to hold three meetings according to the February, 1967 recommendation of the Committee, but schedule conflicts were such that only two meetings will be held this year.

The State Advisory Committee has rendered great assistance in identifying research problems. Several members have provided consulting services on projects of immediate concern to the Unit. It is unfortunate that relatively few of the recommendations of the Committee could be translated into research and development projects due to a lack of research funds, facilities, and personnel. The Committee can continue to serve the Unit if the program of research in vocational-technical education in Idaho is expanded. This is discussed further in a later section of this report (see p. 20).

#### FINDINGS AND ANALYSIS

The Unit continued its involvement in research projects during the past 19 months. There was less time spent, however, on research activities and more on efforts to coordinate and stimulate research by other agencies and organizations. Accordingly, all of the new research projects initiated during the 19-month period were joint efforts between the Unit and one or more individuals, agencies and/or organizations in Idaho and elsewhere. Research and development efforts by others in the state were noted and described in the Unit's news bulletins as one means of research coordination.

This major division of the present report divides logically into two sections. The first will present the research program of the Unit. The second section will contain examples of important research and development projects in Idaho which have some implications, more or less direct, for the field of vocational-technical education.

## Unit Research Projects and Activities

The research program of the Unit during the first 21 months was presented in the first final report (Reference 10), which is reproduced as the Appendix of the present report. Seven research projects had been completed as of February 28, 1967, and nine written reports had been issued. Since these were adequately described and referenced in the first final report, they will not be repeated here (see Appendix, "a, b, d, e, f, h, and i," pp. 36-38, and p. 44).

Most of the remaining 7 projects listed in the first final report (Appendix, pp. 36-39) were completed during the past 19 months. The final reports are referenced and listed at the end of this report. Space does not permit a complete summary of each report, but a brief description of each will be given to update the contents of the first final report. Additional comments are included, where appropriate, to reveal some of the uses made of the results.

a. Vital Statistics and Population Projections for Idaho: 1960-1980 (Reference 1). This study was directed by Professor Harry C. Harmsworth, formerly of the Department of Social Sciences at the University of Idaho. The Unit contributed to the project when, in the fall of 1965, one of the research assistants was assigned temporarily to assist Dr. Harmsworth in some statistical analyses. This was the third population study sponsored by the Department of Social Sciences. The first study covered the period from 1890 to 1950, and the second covered the 1960 decade. The third study dealt with the projection of fertility, mortality, and migration trends in Idaho by 5-year periods--1960, 1965, 1970, 1975, and 1980.

b. Study of Agriculturally Related Occupations in Selected Counties of Idaho (Reference 9). This study began with the selection of a wide variety of business types which logically might be assumed to employ persons who needed, or could benefit from, training and/or experience in the agricultural field. The strategy adopted was to compile a list of those businesses which (1) provided services of direct benefit to the farming community, (2) were processors of agricultural products, or (3) produced goods which were used directly in agricultural production and related activities. Some seven hundred personal interviews were held, and over eighty-five different types of businesses were identified as agriculturally related. A total of about 250 agriculturally related occupations were identified according to the definitions adopted in the study. As already noted, the Assistant Director of the Unit presented a paper on this study at the annual meeting of the Agricultural Education Northwest Research Council (see page 5). The assistant director also submitted an article to a professional journal, partially based on the Unit's study, which was accepted and published in Agricultural Education (Reference 2).

c. A Follow-Up Study of Vocational Students At North Idaho Junior College (Reference 5). A follow-up study was conducted of former students at North Idaho Junior College, Coeur d'Alene, who were

enrolled in programs of Automobile Body and Fender, Automobile Mechanics, and Industrial Electronics. Data were obtained from questionnaires and student records. Work experience, evaluations of educational experiences, and mobility were a few of the many different types of data obtained and analyzed in the study. The results, although limited by small numbers of students and programs in which they were enrolled, had some important implications for program development. Moreover, the final report has served as a model for other similar follow-up studies.

d. High School Vocational Interest Survey in Canyon County (Reference 6). The first final report stated (Appendix, "k," p. 38) that the results of this study were used for local educational planning and were not published as a general research report. That portion of the study conducted by the Unit was concerned with the enrollment potential for vocational education programs in Canyon County of southwestern Idaho. A simple questionnaire was developed and administered to more than three thousand high school students. The results were analyzed in respect to plans for college attendance, interest in vocational education, vocational programs of highest interest, and others. Requests for information concerning this study were sufficiently numerous that a small report was prepared which contained the major findings. The study proved to be a pilot run, as a more detailed questionnaire study was conducted in several of the same schools a few months later (see "b," p. 13).

e. Instruments For Vocational Guidance, Selection, and Placement: A Review and Synthesis of Research in Idaho (Reference 7). This study began as an exploratory venture in respect to the predictive value of certain psychological tests in two of Idaho's area vocational schools. Data were collected during the summer of 1966 on results of the General Aptitude Test Battery, the Nelson-Denny Reading Test, and vocational grade point averages. Correlation and analysis of variance studies were conducted to reveal any relationships which might be important for vocational guidance, selection and placement. The original intention was to prepare a report which would contain little more than the statistical analyses. It soon became evident, however, that this was a larger problem area than was evident at the beginning. Several graduate theses were located which reported results for instruments of various types which had implications for vocational guidance, selection and placement. Moreover, the relationship between this study and others either planned or in progress in the Unit was quite obvious (see "g" which follows, and "e," p. 14). The decision was made, therefore, to expand the final report of this project so that it would constitute a review and synthesis of research in Idaho. The report is virtually completed, and will be released before the end of this year.

f. A Follow-Up Study of Pocatello and Idaho Falls High School Graduates (1954-1963). (Reference 4) Two Idaho school districts, Pocatello District # 25 and Idaho Falls District # 91, were involved in what is perhaps the most detailed and comprehensive follow-up study ever

conducted in Idaho. Federal funds were obtained to sub-contract this study through the Unit to the Pocatello School District. The study, including preliminary planning, was completed in a period of 10 months ending July 1, 1967. Nearly six thousand questionnaires were mailed to former graduates, requesting information on a wide array of subjects. Data from school records, such as grade point averages, types of educational programs, and psychological test scores also were collected. Extensive analyses of the data revealed significant findings which were reviewed by the administration and boards of both schools for educational planning and development. The results for the Pocatello High School were adapted and used by the principal researcher, Larry E. Watson, as a masters thesis at Idaho State University, Pocatello (Reference 11). The study should serve as an excellent model for additional follow-up studies in Idaho and elsewhere.

g. A Study of Certain Interest and Personality Characteristics of Students in Vocational Programs in Idaho Area Vocational Schools (in progress). This study had been underway only a few months when the first final report was written. The data collected were so vast, and the analyses sufficiently complex, that the study still is in progress. The basic problem investigated was to determine certain characteristics of vocational students in Idaho area vocational schools. A related problem was to determine further if students in different vocational program groups could be differentiated significantly. Four instruments were administered to over five hundred students: The Omnibus Personality Inventory and the Interest Assessment Scales, both developed at the University of California, Berkeley; the Kuder Occupational Interest Survey, Form DD, published commercially by Science Research Associates, Chicago; and a short personal data sheet developed within the Unit. Statistical analyses have been completed on a major portion of the data, using discriminant analysis and multivariate analysis of variance.

The Unit staff was able to relate this study to a similar and much larger project in the state of California. Indeed, this is the best example to date of a study involving interstate cooperation. Dr. Lawrence H. Stewart, Professor of Education, University of California at Berkeley, conducted a similar study (Reference 3) involving both students and graduates of 43 occupation-centered curricula. Data also were collected from one Hawaiian community college, and the results obtained in Idaho were made available to Dr. Stewart for analysis and incorporation into his final report. The results of this study revealed that certain interest and personality scales could discriminate significantly among vocational curricular groups. The assistant director of the Unit is continuing analyses of the Idaho data which he plans to use as a doctoral thesis. Additional important findings should result when this work is finished.

Since the Unit had 7 research projects underway when the first final report was written, it is obvious that much research time and effort was devoted to these projects during the last 19 months. As may be noted in items "a" through "g" above, all except two of the

projects have been completed and a final report issued. Five new research projects were undertaken during the last 19 months. A brief description of each and their status at the end of September, 1968 will be presented.

a. Open System Theory and Change in Vocational Programs of Idaho Secondary Schools (Reference 8). Two basic questions were posed in this study relative to programs of vocational education in Idaho secondary schools: (1) What changes have taken place in Idaho's vocational education programs, and (2) Can a community's readiness for change be predicted? The study was an outgrowth of certain theoretical concepts by Daniel E. Griffiths, Dean of the College of Education at New York University. Research Assistant Robert J. Heger was the principal researcher on this project, and used the results as his doctoral thesis in school administration at the University of Idaho. The study focused on the decision-making process of some 50 school superintendents throughout Idaho as this related to their programs of vocational education. Propositions were tested from the Griffiths system theory of administrative change. The results revealed a few significant relationships. It seems likely that certain characteristics of the organizational structure have an important influence on vocational education programs, but additional research was strongly indicated to further establish and clarify these relationships.

b. A Survey of Vocational Interests and Attitudes of Students and Parents in Canyon County and Vicinity (in progress). An early study of the Unit (see "d," p. 11) also was concerned with vocational interests of high school students in Canyon County of southwestern Idaho. Indeed, this study was an outgrowth of the first study which was hastily completed and therefore not as definitive as might have been wished for educational planning. More time was available in the second study to develop and field test comprehensive questionnaires. Ten school administrators were invited to participate in the study, and nine of these eventually returned completed questionnaires. Unfortunately, expected financial assistance may not be available to complete this project. As it now stands, sufficient results are available to give general trends and responses for the total group of more than three thousand students. Present plans are to publish these general results as a supplement to the Unit's quarterly news bulletin and thus terminate the project. The questionnaires (both for parents and students) should prove useful, however, if similar studies are conducted in the future.

c. An Exploratory Study of Some Factors Operative in Occupational and Curricular Choice (in progress). The major purpose of this study is to investigate certain aspects of the vocational choice process. Research Fellow Thomas Cain is the principal researcher, and will use the results of the study as his doctoral thesis in school administration. The study is focused on the occupation of mining engineer. This occupation has a shortage of qualified people and a tendency for few college students to enroll in this curriculum. The College of Mines at the University of Idaho has helped finance the project.

Even though the curriculum of mining engineering is not strictly vocational, the study should serve as a model for other studies which focus more specifically on the vocational area. The Kuder Occupational Interest Survey, the Gough Adjective Check List, and a specially designed questionnaire were used to collect the data from several hundred high school and college students. The data currently are being analyzed. The results are expected to throw some light on the forces which, for individuals, ultimately determine occupational and curricular choice. Certain propositions from Donald E. Super's theory of occupational choice will be tested.

d. Current Status and Anticipated Trends in Production Agriculture in Idaho. The status of this study is rather uncertain as this report goes to press. Plans for the study began to take shape early this year. The World Wide Education and Research Institute of Salt Lake City, Utah was to assume major responsibility for the project. Personnel in the Idaho State Board for Vocational Education; the College of Agriculture, University of Idaho; and the Unit also were to play important roles in the research. Work progressed only as far as the development of an early draft of a mail questionnaire and a tentative mailing list. A lack of finances has halted the project at least temporarily. Future developments are uncertain.

e. The Predictive Validity of Three Test Batteries in Vocational Programs at Idaho Area Vocational Schools (in progress). Mr. Kenneth Armstrong, doctoral candidate at the University of Idaho, is the principal researcher in a test validation study under a sub-contract with the Unit. The sample will be drawn from students completing vocational programs during the 1966-67 and 1967-68 academic years in one of Idaho's five area vocational schools. The criterion is cumulative grade point averages. The test batteries, which will be compared for their predictive value, are the General Aptitude Test Battery (GATB), the Differential Aptitude Tests (DAT), and the Iowa Tests of Educational Development (ITED). The GATB is administered to all entering students in the area vocational schools, the DAT is administered at the ninth grade level, and the ITED is taken at the beginning of the eleventh grade. The latter two batteries constitute the statewide testing program in Idaho secondary schools. At the present time, all data have been collected from the area schools. Secondary schools are being contacted for results of the DAT and ITED. Statistical analyses should begin before the end of this year. Mr. Armstrong will use the results of the study as his doctoral thesis in guidance and counseling at the University of Idaho.

It is evident that, in several of the above research projects (see "f and g," pp. 11-12, and "a, c, and e," above), several persons employed within the Unit or under a sub-contract arrangement have been able to relate their work to their own degree programs. It has never been required, however, that anyone employed by the Unit conduct his thesis research as a Unit project. Two research fellows chose to complete thesis projects independently of their Unit assignments. Since their research has some relevance to the vocational

area, brief descriptions will be given.

Gerald DiMinico is conducting a study entitled "Correlative Vocational Concepts in Elementary Education." He is collecting materials for an instructional system which is designed to acquaint students with the occupational possibilities in the field of electronics. Coordination also will be effected with the whole field of general science. The developmental aspects of the study should be completed by the end of this year. A trial test of the materials will be conducted in a local school late this year or early next year.

Franklin Greenough has virtually completed his study entitled "Selective Utilization of Mathematics Textbooks by Elementary School Teachers." He interviewed several teachers to determine which techniques and lessons they found most effective. An attempt was made to determine the attitudes held by math teachers toward selection of techniques and lessons other than those prescribed by the text. Comparisons were made between this trend and more traditional methods. Studies of this type may have important implications for courses in vocational mathematics which are under development in other research projects.

#### Research and Development Projects in Idaho

A number of research and development projects have been completed during the past 19 months, and others are still in progress. Several of these which seemed most significant to the writer of this report were selected. The brief descriptions reveal important efforts which have relevance for vocational-technical education, and point to research which is needed or which may be expected in the months ahead.

- The Department of Employment, State of Idaho, has continued its program of occupational and labor market research. Reports of two recent occupational surveys in the Pocatello area and in Bonneville County of southeastern Idaho were published. Research personnel are engaged in exploratory work with the new occupation-industry matrix developed by the Department of Labor which may prove useful for labor force projections.
- The College of Southern Idaho, Twin Falls, which was opened in the fall of 1965, has shown considerable progress in their building program. Phase I, consisting of an academic building, a fine arts building, and a maintenance building, will be completed before the end of this year. Phase II involving the construction of three more buildings should begin early next year.
- The area vocational school at Idaho State University, Pocatello has for the past year sponsored a program in adult basic education. A basic objective is to provide instruction in elementary math and reading to enable vocational trainees to succeed in regular programs of vocational training. Enrollments are limited to

students achieving below the 8th grade level, and who are a minimum of 18 years of age.

- A program entitled "High School Vocational Orientation" is being conducted at the College of Southern Idaho, Twin Falls. Students from local schools are allowed to visit vocational shops and classes, and to engage in some first hand experiences in a number of the instructional programs.
- A new area vocational school is being developed in Idaho Falls, and will be named the Idaho Falls Area Vocational-Technical Center. This will increase to six the number of area vocational schools in Idaho.
- The Clearwater Economic Development Association, embracing five counties in North Central Idaho, was organized with headquarters in Moscow. The Association is engaged in activities designed to encourage new businesses to organize and situate in the area, and to generally promote economic development.
- Construction began in mid-October on a new facility to house the area vocational school located at Lewis-Clark Normal School, Lewiston.
- Follow-up studies of vocational students at Idaho State University, Pocatello; North Idaho Junior College, Coeur d'Alene; and Boise State College, Boise have been conducted. Work continues on the development of a follow-up system which will be continuous and an integral part of the instructional program.
- The Idaho Department of Commerce and Development sponsored a statewide study of economic resources in Idaho, from which was developed a program for industrial progress. They also initiated the Annual Governor's Conference on Economic Development.
- Dr. Kenneth Ertel, Associate Professor of Education, University of Idaho, has developed an instructional system to instruct non-college-bound youth in the competencies necessary for entry level employment in the general merchandise retail field. The materials are ready for field testing. This instructional system was developed from earlier work on occupational clusters by the Research and Development Unit at Washington State University, Pullman, Washington.
- Dr. R.D. Peterson, Associate Professor of Economics, University of Idaho, published a provisional input-output study of the economic structure of Idaho. The input-output method of analysis may prove useful in labor force studies for vocational education planning.
- Dr. Thomas O. Bell, Assistant Dean of Education, University of Idaho, completed a survey project involving six school districts. Appraisals were made of the school facilities, educational programs, administrative organization, and others. Following this Dr. Bell directed a study of school district organization in Idaho. Several written reports contained information and findings of direct relevance to vocational-technical education.

- The Rocky Mountain Educational Laboratory, Greeley, Colorado, is conducting a project entitled "Image of the World of Work." Seventh grade students are subjects of pilot tests to develop basic attitudes which are conducive to later pre-vocational and vocational development. Idaho has one of the eleven pilot schools, located at Meridian.
- The Department of Education, State of Idaho, completed a state-wide study of school dropouts. The report gives some useful insights regarding the incidence and characteristics of dropouts in Idaho schools, and provides a basis for more detailed dropout studies which may follow.

Space does not permit more details on the above research and development projects. Most have been presented and discussed at greater length in the Unit's news bulletins. Information on the others may appear in future issues of the news bulletin, or is readily available from other sources.

### CONCLUSIONS AND RECOMMENDATIONS

Now that the research and development program has been presented, it is appropriate to look forward to the activities and role of the Unit during the 5-year period which is just beginning. Perhaps the best way to start is to present the purposes and objectives stated in the April, 1968 continuation proposal.

#### Future Purposes and Objectives

Four basic objectives have characterized all of the Unit's activities to date, and will continue to define its basic role. These are repeated here: (1) conduct research, (2) stimulate and encourage research and development, (3) provide research consulting services, and (4) coordinate all research and development activities pertaining to vocational-technical education in Idaho. The four basic objectives are delineated more specifically as follows.

- a. Stimulate and encourage occupational education research and development activities in state departments, local school districts, colleges and universities, and non-profit organizations.
- b. Coordinate occupational research activities conducted within the state by the agencies noted above, and with those being conducted outside the state.
- c. Disseminate information on the progress and applications of the results of occupational education research.
- d. Stimulate activities which will result in increased interest and improved competence in research such as encouraging pre-service and in-service training of occupational researchers.

- e. Participate in the development, monitoring or conduct, as appropriate, of occupational research and development projects supported by Federal, State, local, or private organization funds.
- f. Identify and maintain an inventory of available occupational research and development resources in light of anticipated needs and programs within the state.
- g. Survey available data on employment opportunities, emerging occupational trends, and future job projections, as a base for planning vocational programs within the state.
- h. Identify issues and problems relating to the nature and place of vocational education in the state school system, and determine the contributions which occupational research and development could make in resolving them.
- i. Conduct and promote literature surveys and syntheses of materials which have relevance for a specialized field of vocational education and/or research.
- j. Maintain a liaison with RCUs in other states, Federal agencies and other research organizations and agencies of government which may provide information and research services of value to Idaho's program of vocational education.
- k. Supervise local surveys of student, parent, and public interest and attitudes toward the organization, content, and administration of vocational education programs.
- l. Establish, maintain, and coordinate a network of research personnel and facilities within the state to expedite the dissemination of research ideas and new educational methods and materials.
- m. Encourage the conduct of theoretical studies in the behavioral sciences which are concerned with (but not limited to) occupational classification systems, labor force projections, career patterns, sociology of work, the learning process, and career choice and development.
- n. Promote and encourage the development of tools, techniques, and organizational structures necessary for the vocational guidance of students.
- o. Develop instructional materials and methods which can be used with employed vocational teachers and teachers in training to help them become at least good consumers of research.
- p. Participate in the organization and administration of programs of vocational teacher preparation at state colleges and universities in regard to course content and sequence.

The above purposes and objectives are almost overwhelming in respect to the vast amount of research and development which would be required to achieve them. Nevertheless, notable progress already has been made by the Unit and others in Idaho. We must continue to build and expand upon the basic foundation which has been established during these first 3 years and 4 months of the Unit's

existence. This will require the best efforts of research personnel and others, directed along at least two broad lines of activity. First, research manpower must be trained and then placed in positions where the time and other resources required for research are readily available. Second, the role and function of the research program must be developed and clearly understood and supported. A brief discussion of these two suggested lines of activity concludes the present report.

#### Provisions For Research Personnel and Resources

Research obviously requires the services of trained professionals--the more training the better, other things equal. This statement is almost trite, but it points up a basic difficulty which has faced the Unit from the beginning. Persons with research competencies can be found, but almost always they have major responsibilities in areas other than research. A survey of all of Idaho's 117 school districts revealed no more than two persons whose major responsibility was research. None of the area vocational schools has a staff member assigned primarily to research. The following paragraphs assess the availability of research manpower and discuss certain plans designed to improve the situation.

The Unit Staff was reduced substantially as preparations were made to enter the new funding period which began October 1, 1968. The staff consisted of as high as eight persons. The director, assistant director, and one secretary were full-time employees for most of the 19-month period. Four research fellows and a part-time secretary completed the complement of personnel. As we begin the new 5-year extension period, the Unit staff consists of a full-time director, a half-time research assistant, and a part-time secretary. Obviously the Unit will be unable to engage directly in research to the extent that this was possible in the past. The emphasis now must shift further toward the broad objectives of research coordination, stimulation, and consulting services.

An interesting sidelight is that few of the ten persons who received research training and experience with the Unit still remain in Idaho. The assistant director and seven research assistants have left the state for positions which paid more and/or provided working conditions more to their liking. One of the research fellows currently is with the Unit. The remaining research fellow separated from the Unit to devote full time to his doctoral program. Efforts will continue to encourage these persons to accept positions in Idaho, but considerable development in the vocational-technical education program may be necessary before much success can be expected.

The Auxiliary Personnel at the University of Idaho and in the Idaho State Board for Vocational Education (see pp. 6-7) are responsible to the Unit for a small percentage of their total time and effort. Most of the persons listed have served the Unit in one

or more of a variety of ways. Perhaps the only suggestion needed is that they provide a little more of the same. A few examples of the kinds of assistance needed are: the preparation and submission of separate research proposals (e.g. under the small grants program), position papers or review and synthesis papers in viable research areas, encouragement of graduate students to do thesis research on vocational-technical problems, and stimulation of colleagues in the state to conduct needed research. More important than these examples, however, is the wide range of professional competencies possessed by these two groups. Perhaps a more appropriate and satisfying suggestion would be merely that they apply their own unique talents to certain problem areas which they understand better than most of the rest of us.

The State Advisory Committee of the Unit (see pp. 7-8) has made important contributions to the Unit's ongoing program. The major drawback has been that most of their suggestions for research and development could not be implemented due to a lack of research personnel and resources. The Unit staff has considered, therefore, whether the time and effort of such a distinguished group could be expected indefinitely without some evidences of growth in the vocational research program.

The Vocational Education Amendments of 1968 make specific provisions for a State Advisory Council which shall advise the state vocational board and conduct evaluation studies. The present State Advisory Committee of the Unit can continue to serve the Unit if the vocational research program can be expanded. Indeed, the involvement of a separate committee concerned only with the research program has many advantages. But as already stated above, this seems to depend upon whether vocational research can be expanded sufficiently to implement the Committee's recommendations. If not, the best course may be to dismiss the present Committee and look to the new State Advisory Council for direction in the research program. This matter will be studied carefully in the next few months, and will be an important topic at the November, 1968 meeting of the State Advisory Committee.

The RCU Discretionary Award Program may help alleviate somewhat the scarcity of research personnel and resources. As the name implies, this is a program in which the RCU Director will be given funds to use at his discretion to promote vocational research and development within his own state. The Unit has received the maximum amount of \$20,000 for the present year which began October 1. The April, 1968 proposal for continuation of the Unit placed two restrictions on the use of these funds: (1) they will not be used directly for staff salaries, and (2) they will not be considered as a replacement for the small grant awards program. It will be possible to use the funds for such purposes as (1) small grants to graduate students and other qualified researchers, (2) pilot and demonstration projects, (3) stipends for trainees in research workshops, (4) stipends for resource and consulting personnel, and

(5) sub-contracts with non-profit research organizations. Since this program is new, it will need several more months of development before definitive patterns begin to emerge.

A Research and Development Network is perhaps the most ambitious objective toward which the Unit staff will work during the next 5 years. There is a definite need for the employment of persons whose main qualifications, interests, and responsibilities are in the area of vocational research. Efforts were begun toward this objective in the fall of 1965, but little has been achieved to date. If the objective is realized, research functions simply will need to receive more priority than they have in the past. The research network envisioned for Idaho would place full-time research directors in the area vocational schools at Idaho State University, the College of Southern Idaho, and at Boise State College. At least half-time persons, or their equivalent, would be employed at Lewis-Clark Normal School, North Idaho Junior College, and at the new Idaho Falls Area Vocational-Technical Center. The researchers thus would be near, or affiliated with, higher educational institutions with their resource personnel and data processing facilities. Collectively, they could cover the more populous areas of the state in about four or five hours of driving time.

There are several reasons why research personnel should be employed, and a few of the more salient will be presented. First, persons with other major responsibilities like teaching or counseling do not, as a rule, have time to complete much research. Since research is not a major responsibility, it tends to be curtailed as the pressures of other duties increase. Second, research is an extensive process. It involves such major steps as problem definition, design, literature surveys, data collection, statistical analyses, and preparation of a written report. The latter was underscored because this tends to be neglected in much Idaho research. Several good studies have yielded no more than a simple tally of results, sometimes on a copy of the original instrument used to collect the data. Some follow-up studies could more properly be called follow-up inventories, as little more than identifying information is prepared in written form. Third, researchers in training, even though an important source of research data and findings, cannot meet the total need. Several excellent graduate theses have been completed at Idaho institutions which have relevance, some direct and some indirect, for vocational-technical education. Theses have certain disadvantages, however: (1) some are so highly theoretical that they have no obvious or immediate relevance to ongoing programs, (2) they tend to be somewhat limited in scope, and (3) there is little tendency for more than a few to be completed in a given problem area.

Research Training Workshops have been considered since the inception of the Unit as a means to increase the availability of trained researchers. None have been held to date, however, mainly because of reasons implicit in many of the foregoing paragraphs.

Persons with research competencies may be found throughout Idaho, but they have little time to initiate and conduct needed studies. Moreover, Idaho cannot keep several of the persons trained in graduate programs, as they prefer employment elsewhere and thus are lost to the state. The Unit staff will give serious consideration to research training workshops, but only if there is some assurance that those attending will be given the necessary time and resources to conduct research once they return to their regular employment.

### The Role and Function of the Research Program

This concluding section begins with a few comments regarding the present program of vocational-technical education in Idaho, especially in view of what has been said previously in this last major division. It concludes with an examination of the role of the Unit as it has developed to date, and as it may be expected to evolve in the months and years ahead.

The Present Program of Vocational-Technical Education in Idaho has evolved from a number of years of experience, and operates fairly effectively. Considerable growth has occurred, as evidenced by two of the area vocational schools which are less than five years old. The growth will continue as the newest area vocational school develops and begins instruction. Despite a paucity of formal research studies, a fairly elaborate system of vocational-technical education has evolved. Advisory committees and qualified instructional personnel, for example, have been able by less formal methods to build courses and programs which provide effective training. Years of experience in the classroom or shop, combined with other sources of information and experience, have caused to emerge certain elements of organization and instruction which have stood the test of time. Indeed, anyone who claimed that the present system of vocational-technical education is not accomplishing several important objectives would be rather naive. An important question, therefore, is "Why is research necessary, and what could it be expected to accomplish which is not already being done by present methods?"

Webster (Reference 12, p. 1237) defines research very simply as ". . . careful, systematic, patient study and investigation in some field of knowledge, undertaken to establish facts or principles." Perhaps the key words are "careful" and "systematic." There has been too much tendency for vocational educators to conduct research and development projects with little attention to a careful collection of factual data. Rule-of-thumb methods have been used instead of more systematic procedures. The tendency has been for factual data to be carried around in a few heads, or perhaps in a few informal written notes. Too few formal written reports have been prepared which clearly set forth the design, methods, findings, etc. of a research project. Indeed, several research professionals do not consider such informal, rule-of-thumb methods research at all. The premise adopted here is that the careful,

systematic procedures used in genuine research are superior to the less formal methods commonly employed, and thus will improve what already is a fairly effective educational program.

The Role of the Unit already has been delineated in several previous sections of this report, and most specifically in the statement of purposes and objectives (see pp. 17-18) from the most recent continuation proposal. It remains to view the activities of the past 19 months against the backdrop of four changes in emphasis which were stated in the first final report (Appendix, pp. 42-43). The first change was that the Unit staff would place less emphasis on their direct involvement in research activities, and more on research coordination, stimulation, and research consulting services. This change is evidenced by the fact that, during the first 21 months, 14 research projects were initiated. During the past 19 months the Unit initiated only 5 new projects. This emphasis on less direct involvement of the Unit staff in research activities will continue, especially in view of the recent reductions in staff.

The second change in emphasis was, in effect, to take a critical look at the vocational-technical research program in Idaho. The results of this evaluation are reflected in the section of this report entitled "Provisions For Research Personnel and Resources," (see pp. 19-22). The Unit staff will continue to work toward a number of objectives implied in this section, the most important of which are the implementation of the RCU Discretionary Award Program and the development of a statewide research and development network.

The third change was to relate the Unit's research and development program to the other programs of research and vocational teacher education at the University of Idaho. As indicated previously (see "f, g, a, c, and e," pp. 11-14) several Unit staff members and others have used the results of research projects for graduate theses. An important development during September, 1968 was the approval by the Board of Regents of an Administrative Unit for Vocational Teacher Education Programs at the University of Idaho. This new Administrative Unit will coordinate all programs for the training of professional personnel in vocational-technical education. The relationship of the State Occupational Research Unit to the programs of vocational teacher education will need to be examined as this new program develops. It is possible that the director will assume some responsibilities for training in research concepts and methods, and for coordination of vocational research.

The fourth change was an expansion of the Unit's research program to include projects with a theoretical orientation in addition to the "bread and butter" projects which had been more characteristic of the earlier years. Good examples are the study of interest and personality characteristics of area vocational school students (see "g," p. 12), open system theory and change in vocational programs (see "a," p. 13), and the study of occupational and career choice (see "c," pp. 13-14). One of the purposes and objectives of

the Unit during the next 5 years will be to promote additional theoretical studies (see "m," p. 18). The intent is not to ignore studies that have immediate practical value. Rather, all types of studies from the "bread and butter" types through the highly theoretical have value and thus will be encouraged.

The State Occupational Research Unit now has existed a sufficient length of time to prove whether it can make a significant contribution to vocational-technical education. The progress made toward the purposes and objectives originally stated, and plans for the future seem to constitute sufficient evidence that the Unit does have an important role to play in Idaho's educational future. The first final report contained a comment (Appendix, "f," p. 29) that the Unit had merely "scratched the surface" in respect to the research task which needed to be completed. We believe the impact is a little more visible now, and that it will become even more visible in the months and years ahead.

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#### APPENDIX

FINAL REPORT OF FIRST 21 MONTHS,  
JUNE 1, 1965-FEBRUARY 28, 1967

**THE ESTABLISHMENT OF A STATE OCCUPATIONAL RESEARCH  
AND DEVELOPMENT COORDINATING UNIT**

**Project No. OE-5-0102  
Contract No. OE-5-85-118**

**Kenneth M. Loudermilk, Director  
Robert W. Richman, Assistant Director**

**Research Fellows, 1965-66 School Year  
N. Dale Gentry  
Grant L. Martin  
Michael L. Powell**

**Research Fellows, 1966-67 School Year  
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**College of Education  
University of Idaho  
Moscow, Idaho**

**March, 1967**

## INTRODUCTION

The enabling legislation for the Idaho Occupational Research and Development Coordinating Unit--officially named the State Occupational Research Unit--was Section 4(c) of the Vocational Education Act of 1963 (PL 88-210, 88th Congress). Similar Units were established in some 24 states by the end of 1965 as part of a plan by the U.S. Office of Education to implement this section of the Act. During 1966, the number of Research Coordinating Units increased an additional 20, so that 44 of the 50 states had a functioning Unit by the end of the year.

The State Occupational Research Unit in Idaho began officially on June 1, 1965 as the result of a grant of \$97,710 from the U.S. Office of Education. This amount was supplemented by an additional \$13,966 in local funds for a total of \$111,676. The original contract was due to expire November 30, 1966, thus covering the first 18 months of the Unit's operation. A proposal for a new grant for an additional 19 months beyond November 30, 1966 was submitted in June, 1966 to the U. S. Office of Education. This proposal resulted in a new contract, received in December, 1966 for \$91,424 in Federal funds and \$38,180 in local funds, for a total of \$129,604.

Since the State Occupational Research Unit operated for several months without a full complement of personnel, and was not able immediately to initiate research activities, a large amount of funds remained unexpended as the original contract period drew to a close. Consequently, a request was submitted to the U.S. Office of Education for an extension of three months. This request was granted in December, 1966, thus moving the termination date of the original contract to February 28, 1967. The termination date of the new contract period also was moved forward from June 30, 1968 to September 30, 1968. The remainder of this report covers events and activities of the Unit's first 21 months, and presents certain broad guidelines for the Unit's operation for the next 19 months.

### Problem

The major problem faced by the State Occupational Research Unit is epitomized in the declaration of purpose of the Vocational Education Act of 1963 (Section 1):

It is the purpose of this part to authorize Federal grants to States to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment for youths who need the earnings from such employment to continue their vocational training on a full-time basis, so that persons of all ages in all communities of the State--those in high school, those who have completed or discontinued their formal education and are

preparing to enter the labor market, those who have already entered the labor market but need to upgrade their skills or learn new ones, and those with special educational handicaps--will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training.

Specific emphasis was placed on the statement that the vocational training or retraining provided under the Act should be realistic in the light of actual or anticipated opportunities for gainful employment.

### Purposes and Objectives

The State Occupational Research Unit, since its inception, has been a joint effort between the College of Education, University of Idaho, and the Idaho State Board for Vocational Education. Close liaison with the latter agency has been maintained. Several conferences between Unit and State Board personnel were held during the contract period, and one research project was completed in cooperation with the State Board and other agencies (see item k, page 38). The Idaho State Board for Vocational Education has meanwhile carried out its normal functions and responsibilities regarding the total program of vocational-technical education in Idaho.

The purposes and objectives of the State Occupational Research Unit were broadly conceived as follows:

- a. Conduct occupational research.
- b. Coordinate research by other agencies, organizations, and individuals.
- c. Stimulate new research.
- d. Provide research consulting services.

Several more specific purposes and objectives may be stated in truncated form. Following each statement will be a brief account of the accomplishments of the Unit during its first 21 months of existence. Some of this material logically should be placed in the section entitled "Results" which comes later in the report. Since this would necessitate, for ease of reading and interpretation, a repeat listing of the purposes and objectives, it seemed most appropriate to include the additional material here together with appropriate references to the later section on "Results."

- a. Perform a clearing house function. The first project of any consequence in the Unit was a survey and evaluation of published studies and literature relating to the vocational area in Idaho. A monthly bulletin

was initiated in October, 1965 and was continued the remainder of the contract period. The November, 1965 bulletin contained an annotated bibliography of materials obtained in the aforementioned survey (see item a, page 36). Subsequent issues of the bulletin contained references to newly published studies and reference materials which had potential value for vocational education. More recently the Unit has made plans to utilize the resources of the emerging ERIC system at The Ohio State University, Columbus, Ohio.

b. Provide training for occupational researchers. Three half-time graduate assistants were assigned to the Unit during the 1965-66 school term as Research Fellows. Currently another three graduate assistants are serving in similar positions for the 1966-67 term. All of these persons were, or are, graduate students in the College of Education working toward advanced degrees. The Research Fellows have been given training and research experience congruent with the purposes, objectives and activities of the Unit. It has not seemed appropriate to date to organize a special seminar or workshop for vocational research personnel throughout the state. The latter may prove feasible at some future date.

c. Conduct surveys of available literature relating to the vocational area. The comments following "a" above are applicable here. The survey and evaluation of available literature in Idaho also provided some basis for the broader purposes and objectives of coordinating vocational research and stimulating new research.

d. Identify issues and problems relating to the vocational education program. Many issues and problems were implicit in the purposes and objectives, and in the research projects completed or engaged in by the Unit. Others were identified by vocational educators and those less closely associated with the vocational education program in Idaho. The Unit has placed less emphasis on those problems and issues regarding which there are considerable differences of opinion and which do not lend themselves to relatively clear-cut and workable research designs.

e. Maintain a file of research publications. The comments following "a" above have implications for this objective. A file has been maintained of the materials collected during the aforementioned survey. Other pertinent literature has been ordered from time to time from a variety of sources. Publications of Research Coordinating Units in other states, and materials received from the U.S. Office of Education have further expanded the research publications file.

f. Determine individual and community vocational education needs. Progress has been made toward this objective in several research projects conducted and coordinated by the Unit. It is obvious, however, that all of the research efforts combined have just "scratched the surface," and that the research task is much larger than can be accomplished with the staff and facilities heretofore available in Idaho.

g. Assess the total supply and demand for labor. The comments following "f" immediately above cover this objective.

h. Identify occupational trends. Most of the work in trend analysis has been focused on industries rather than occupations (see item e, page 37). Research completed by the Unit and other agencies has tended to focus on occupational changes, needs, etc. at fairly specific points in time. Efforts to expand research studies relating to specific occupations have been hampered by difficulties encountered in obtaining complete and reliable data regarding occupations which compose the Idaho labor force.

i. Study labor mobility and factors relating to mobility. Mobility studies are rather difficult, for obvious reasons. The Unit has not undertaken studies with mobility as the prime focus. Some data on student and worker mobility were obtained, or will be obtained, in a study of the lumber industry in Idaho (see item b, page 36), and in follow-up studies of students in several Idaho schools (see items j and m, pages 38 and 39, respectively).

j. Assess the adequacy of educational requirements as related to job requirements. The Unit has not directly engaged in curriculum studies. This was based on the assumption that curriculum and subject-matter specialists were better qualified to do this work. Several Unit studies (see items b, g, i, j, and m, pages 36-39) have been concerned with the adequacy of educational requirements, and evaluations by former students of their school experiences.

k. Study the human characteristics demanded by today's occupations, and project these demands into the future. Four studies conducted by the Unit (see items b, d, l, and n, pages 36-39) have been concerned more or less directly with human characteristics as they relate to occupational performance or membership.

l. Study the full utilization of manpower, including the socioeconomically handicapped, and factors relating thereto. One small study was conducted relating to the training and employment of mentally and physically handicapped persons (see item h, page 38). Otherwise relatively little effort has been directed toward this objective.

m. Translate research findings into curriculum advice for schools in the state. The statements following "j" above are appropriate here.

n. Provide a model for follow-up studies of vocational trainees. Two follow-up studies (see items j and m, pages 38 and 39, respectively) are in progress as of the date of this report.

o. Provide information sources and psychological data for vocational guidance. Four studies particularly (see items b, d, l, and n, pages

36-39) have been designed with this objective in mind. All other studies and research activities of the Unit have had implications for the guidance of students.

## METHOD

The methodology for several research projects conducted by, or participated in, by the Unit has been detailed in separate publications. References to published reports, and a brief resume of each project, are presented in the next section--Results--of this report. The methods used to establish and maintain the Unit in a position of leadership in the Idaho vocational education program are described under the following headings.

### Methods of Contact and Public Relations

The Unit staff consisted of three full-time persons, a director, assistant director, and secretary; and four half-time persons, a secretary and three graduate assistants. The latter three positions have been filled by graduate students in advanced degree programs within the College of Education. All staff members have been involved to a greater or lesser extent in the preparation of publicity materials and in individual or group contacts to promote the Unit's operation. Several examples of important activities engaged in by Unit staff members follow:

a. Radio and newspaper releases. The establishment and the continuation of the Unit have been announced through the public relations department of the University of Idaho, and thus have received radio and newspaper coverage in all major sections of the state. Several of the Unit's publications also have received radio and newspaper coverage through this same source. Local research activities of the Unit have from time to time been published in local newspapers throughout the state.

b. Individual contacts. Individuals too numerous to list separately have been contacted. The director of the Unit has lived in Idaho most of his life, and has lived and worked in all major areas of the state. Numerous individual acquaintances in a wide variety of organizations and agencies have been contacted by Unit members by phone, letters, and in personal visits.

c. Speeches to professional groups. The Idaho Association of Secondary School Principals, the Idaho Association of School Superintendents, service clubs, and other professional associations are examples of groups addressed by members of the Unit.

d. Group conferences. Conferences have been held several times with persons affiliated with a number of organizations, agencies, business firms, etc., such as those listed below under the next heading.

Several conferences were held to explore research efforts and the possibility of stimulating additional studies. Other meetings were held as part of an ongoing research effort, some of which directly involved the Unit as a partner in a joint research study, or as a consultant.

e. National or regional conferences. The director and assistant director of the Unit have attended several national and regional conferences during the 21-month period. A description of the conferences, in chronological order, follows:

- The initial planning meeting for RCU directors, held in the U.S. Office of Education, Washington, D.C., July, 1965.
- The Western States Regional Conference, held in Flagstaff, Arizona, November, 1965.
- National seminar on Development and Coordination of Research for RCU personnel at The Ohio State University, Columbus, Ohio, February, 1966.
- Research conference and workshop at Utah State University, Logan, Utah, June, 1966.
- National planning meeting for RCU personnel, held in the U.S. Office of Education, Washington, D.C., September, 1966.
- The 60th annual convention of the American Vocational Association, held in Denver, Colorado, December, 1966.
- The Western States Regional Conference, held in Phoenix, Arizona, December, 1966.
- Training conference on the Program Evaluation and Review Technique (PERT), at The Ohio State University, Columbus, Ohio, January, 1967.

f. Monthly bulletin. The Unit began the publication of a monthly bulletin during October, 1965 and has continued this to date. All school districts in the state, all post-high school institutions, and several additional organizations and individuals were sent the initial bulletin together with a return request if they wished to be placed on a permanent mailing list. The list has grown so that approximately 225 mail-out occur each month. This includes RCU's and other interested agencies and individuals in other states. The bulletin is the best single source of news concerning Unit publications and activities.

#### Agencies and Organizations Contacted

The following agencies and organizations were contacted, and to the extent possible a liaison was developed between them and the Unit:

- a. Department of Employment, State of Idaho.
- b. All major universities, colleges, and area vocational schools.
- c. State and city Chambers of Commerce.
- d. Numerous industrial organizations.
- e. Idaho Department of Commerce and Development.
- f. Idaho State Nurses' Association.
- g. Idaho Retailer's Association
- h. Idaho Hospital Association.
- i. Idaho Association of Licensed Nursing Homes.
- j. Associated Industries of Idaho.
- k. Several city and county governmental units.
- l. The Idaho Psychological Association.
- m. The Idaho Personnel and Guidance Association.
- n. Several public high schools.
- o. Vocational Rehabilitation Service.
- p. Department of Public Health.
- q. Department of Public Assistance.

The above list is illustrative rather than exhaustive, and other organizations noted elsewhere in this report are not repeated in the list.

Efforts to coordinate research activities have not been too difficult, because comparatively little research related to the vocational-technical area has been conducted throughout the state. Consequently, there have been few occasions when the Unit could provide consulting services for ongoing research projects. Efforts to stimulate new research likewise have not been too successful. Persons qualified to do research have consistently been engaged in full-time duties to the extent that little time could be found to conduct independent research studies.

The paucity of research studies and personnel time devoted to research efforts was recognized early in the Unit's operation. It was decided that the Unit should engage directly in several research projects rather than depend entirely upon others to do the work. It seems now, in retrospect, that this was the best procedure to follow. However, a limited staff and geographical locations and distances peculiar to Idaho have rendered the conduct of several important studies virtually impossible. Consequently, the studies completed to date are not necessarily representative of those which should receive top priority. The real need which continues to exist is for the employment of research personnel in different areas of the state whose main interest

and responsibility is research in the vocational-technical area. Little progress has been made in this respect to date.

### Advisory Committees

A State Advisory Committee was formed soon after the Unit was organized. The original members and their titles and affiliations follow:

- a. Addison C. Beeman, Chief of Research and Analysis, Department of Employment, Boise.
- b. Thomas Bell, Superintendent, District 148, Grace; President, Idaho Association of School Superintendents.
- c. Darrell H. Dorman, President, Idaho State AFL-CIO, Boise.
- d. Del F. Engelking, Superintendent of Public Instruction, State Department of Education, Boise.
- e. Sam R. Glenn, Director, Idaho State Board for Vocational Education, Boise.
- f. William Hedley, Dean of Men, College of Idaho, Caldwell; President, Idaho Personnel and Guidance Association.
- g. Frank Hirschi, Representative, Bear Lake County; Chairman, Education Committee, House of Representatives.
- h. Elmo Parish, Office Manager, Blue Cross Insurance; Member, Administrative Management Society, Boise.
- i. Ray W. Rigby, Senator, Madison County; Member, Senate Education Committee.
- j. Harold A. Taylor, Director of Services for the Blind, Department of Public Assistance, Boise.
- k. Dr. James L. Taylor, President, College of Southern Idaho, Twin Falls.
- l. Stanley Trenhaile, Idaho Commissioner of Agriculture, Boise.

Thomas Bell (see item b above) left his job as superintendent and presently is a staff member within the College of Education, University of Idaho. Dr. Bell was replaced on the Advisory Committee by Mr. Earl Vopat, Superintendent of Grangeville Joint District 241 and currently President, Idaho Association of School Superintendents. Mr. Leon Scott, Personnel Manager of Lamb-Weston, Inc., American Falls (a potato processing firm) was invited to serve on the Advisory Committee beginning early this year, thus increasing the membership to a total of thirteen.

Due to schedule conflicts both on the part of the Committee members and staff members of the Unit, only two meetings were held during the 21-month period. The first meeting was held in late September, 1965 shortly after the Unit was organized. The Committee gave several

suggestions for research projects and activities, some of which the Unit was able to implement. At the second meeting, held late in February, 1967 the Committee voted to meet three times a year to give more continuity to the working relationship between it and the Unit. Furthermore, it was suggested that each meeting have some research project or area as a general theme or focus. Since the Unit has been engaged for nearly a year in a study of agriculturally-related occupations (see item g, page 37), this area of vocational education was selected as the theme for the next meeting scheduled for May 1, 1967. It seems that, during the new grant period, much closer and more profitable working relationships may be expected between the State Advisory Committee and the Unit.

A Unit Ad Hoc Committee was formed of staff members at the University of Idaho. The purpose of this Committee was to provide consulting services to the Unit and other research groups in the state, and to serve as a "sounding board" for proposed research projects and activities. The following persons have served on the Ad Hoc Committee:

- a. Dr. Gladys I. Bellinger, Professor and Head, Home Economics Department.
- b. Dr. William R. Biggam, Professor of Industrial Education.
- c. Dr. Sydney Duncombe, Assistant Professor of Political Science and Associate Director of the Bureau of Public Affairs Research.
- d. Mr. Kenneth A. Ertel, Assistant Professor of Education and Teacher Educator for Distributive Education.
- e. Dr. Edward L. Kelly, Associate Professor of Education and Director, Bureau of Educational Research.
- f. Dr. Robert M. Kessel, Professor of Education and Head, Department of Office Administration.
- g. Dr. Oscar Kjos, Assistant Professor of Psychology and State Vocational Counselor Educator.
- h. Dr. Victor E. Montgomery, Professor and Head, Department of Psychology.
- i. Dr. Norman Nybrotten, Professor of Economics and Associate Director of the Bureau of Business and Economic Research.
- j. Dr. Everett V. Samuelson, Dean of the College of Education.
- k. Mr. Herbert A. Winner, Professor and Head, Department of Agricultural Education.

Several meetings were held with this Committee, during which the activities and problems of the Unit were discussed. Several Committee members provided consulting services for various research projects conducted by the Unit, and their names are acknowledged in several of the research reports which have been issued.

## RESULTS

As already indicated, the Unit has engaged directly in research projects and activities, both singly and in cooperation with other organizations and agencies. The research program of the Unit is presented under the first heading to follow. Research activities of note by other agencies and organizations are presented under the next heading.

### Unit Research Projects and Activities

The Unit has issued nine research publications which are listed as references at the end of this report. Those projects for which reports are available will have the reference number following the title. Others still in progress will be so identified. The projects are listed generally in the chronological order of their initiation.

- a. Annotated Bibliography of Idaho Publications (Reference 8). This study was published as an annotated bibliography with the second issue of the monthly bulletin. Publications concerned with the Idaho economy, labor force, individual occupations, various industries, the educational system, labor legislation, and other related topics were listed.
- b. A Study of the Lumber Industry in Idaho (References 2, 3, and 4). The lumbering study was published in three parts. Part I deals with the importance and general characteristics of the industry in the United States, in several western states, and in Idaho. Excerpts from several published reports are presented which describe present conditions in the industry, and give projections beyond the year 2000. Part II was divided into two major sections. The first section presents certain sociological and related data for lumber workers. These data pertain to several aspects of lumbering, such as prestige level, salary information, geographical location of employment, and physical requirements of the work. The second section presents a survey of studies from the psychological literature involving workers in the industry. Also included are the results of a psychological test development study in a large combined lumber and paper mill located in North Central Idaho. Part III presents the results of research in 27 mills in the Idaho lumber industry. Interview results with 131 foremen and questionnaire results for 1,192 production workers are presented and discussed. Also, results obtained from 150 mail questionnaires are included. Certain personal characteristics of lumber workers are presented, and educational experiences desirable for this industry are identified and discussed.
- c. Vital Statistical Trends and Population Projections for Idaho, 1950-1975 (in progress). The study design calls for an analysis of the state's population growth in the recent past, and a projection of this growth into the future. Important factors which will be considered are

birth rate, death rate, and net migration. The final report should contain three population projections--high, medium, and low--thus providing a range of figures rather than a single projection. One graduate assistant of the Unit participated in this study, which was initiated by the Chairman of the Department of Sociology at the University of Idaho.

d. A Survey of Literature Related to Selected Nonprofessional Occupations (Reference 7). A survey of the psychological literature was completed for studies relating to success and/or membership in 28 occupations for which training is given in Idaho high schools and area vocational schools. The report concludes with a section which draws together the data presented and in which are suggested several types of tests which should be used for experimental validation studies in Idaho schools. The importance of local test validation studies is stressed and documented.

e. Employment Trends in Various Idaho Industries 1950-1964 (Reference 9). This study was conducted in cooperation with the Department of Employment, State of Idaho, and the Idaho Department of Commerce and Development. A total of 77 graphs was prepared showing industrial employment trends over the 15-year period. The final report presented only the main highlights of the study. A brief narrative accompanied a general description of several industries embracing one or more two-digit code groups of the Standard Industrial Classification Manual. Industries showing rapid growth, normal expansion, and a decline in employment were identified and categorized.

f. A Study of the Nursing Profession in Idaho Medical Facilities (Reference 5). The nursing study was a cooperative effort between the Idaho State Nurses' Association, the Idaho Hospital Association, the Idaho Association of Licensed Nursing Homes, and the Unit. An introductory section of the report briefly touches on recent issues in the nursing profession, such as wages and working conditions. The main body of the report presents the results obtained on a 42-item questionnaire mailed to all medical facilities in Idaho. Several appendixes containing additional data are included in the report.

g. A Study of Agriculturally-Related Occupations in Idaho (in progress). This study has been in progress for about one year as of this date. The basic data were gathered during the summer of 1966 by two Unit staff members and two consultants hired specifically for field research. Field interviews were held with several hundred firms which (a) produced one or more products which found immediate use on the farm, (b) processed food or other products produced on the farm, or (c) provided some service which directly benefited the farm community. An important feature of the study design was the use of psychologically trained interviewers rather than persons with an agricultural background. Data obtained during the field interviews are being analyzed, and further interviews and analyses may be completed to expand

the study.

h. A Study of Vocational Training for Mentally and Physically Handicapped. (Reference 6). This report presents the overall problem of training mentally and physically handicapped persons to participate in the labor force. Estimates are given regarding the magnitude of the problem in Idaho. The difficulties encountered in defining these groups of persons is discussed. The main body of the report consists of a listing of various organizations and agencies, together with a description of services rendered to mentally and physically handicapped persons. Recommendations are given for general improvements in the programs of training available in Idaho.

i. A Study of Employment Opportunities for Chemical Technologists in Northern Idaho (Reference 1). The study had two major purposes: (1) to identify training needs for chemical technologists per se, and (2) to provide a model which might be followed in future studies relating to vocational training programs. Each major phase of the study is described, together with the results obtained. A sufficient number of potential openings was found to justify a training program for this occupation in one of the Idaho area vocational schools.

j. A Follow-up Study of Vocational School Students (in progress). This study, which is nearing completion, was designed to follow up both graduates and dropouts in a number of vocational programs at North Idaho Junior College, Coeur d'Alene. A follow-up questionnaire was constructed specifically for the study in cooperation with staff members of the College. The study should provide information of use in future educational planning, and also should serve as a model for similar studies elsewhere in the state.

k. A Feasibility Study for an Area Vocational School (unpublished). This study was a cooperative effort between local Chambers of Commerce, the Department of Employment, State of Idaho; the Idaho State Board for Vocational Education; and the Unit. Two major types of data were obtained. First, employment potential and job shortage areas were determined by the Department of Employment through analyses of newspaper ads for workers, analyses of job orders in local employment offices, and through a study of questionnaire results obtained in an earlier county occupational survey. The Unit prepared and administered a student interest questionnaire to several hundred local high school students, and the Idaho State Board for Vocational Education tallied the results. The final results of the study were used for local educational planning and were not published as a general research report.

l. Development of a Test Battery for Vocational Guidance, Selection, and Placement (in progress). The survey of psychological literature related to success and/or membership in 28 occupations (see item d on the preceding page) was followed by a number of exploratory activities

regarding the development of a comprehensive vocational testing program in Idaho. A small beginning was made about midway through 1966 when two area vocational schools cooperated with the Unit in compiling psychological test scores, academic grades, and other personal data on several hundred present and former students. As of this date, the data are being analyzed for any significant relationships which may be useful in guidance, selection, and placement. The study described below under "n" also should yield results which will have potential value for those persons working with vocational and pre-vocational students.

m. A Follow-up Study of High School Graduates (in progress). Follow-up studies were listed as one objective in the original proposal which resulted in the formation of the Unit. As noted above (see item j on the preceding page), one follow-up study of area vocational school students is underway. The continuation proposal, submitted to the U.S. Office of Education in June, 1966 requested funds for a sub-contract study for follow-up of graduates of the Pocatello and Idaho Falls high schools of southeastern Idaho. The Unit received permission to begin this study prior to the end of the original contract, and accordingly the study began October 1, 1966. A questionnaire was developed and mailed to 5,844 former students who had graduated sometime during the 10-year period 1954-1963. Data from school records, such as grade point averages and type of educational program, will be obtained for later analyses. The results should prove useful in local educational planning, and the study should serve as a model for other similar projects which may be completed elsewhere in the state.

n. A Career Choice and Development Study (in progress). This study involves the administration of psychological instruments designed to assess interest and personality variables for a number of vocational-technical students in Idaho area vocational schools. The final number tested may approach five hundred students. The study design has two major objectives. First, it involves the investigation of possible means of differentiating various vocational-technical student groups from each other, and from student groups oriented toward four-year college programs. Second, the several personality and interest measures will be related to John L. Holland's theory of vocational choice, set forth in his book entitled The Psychology of Vocational Choice (Waltham, Mass.: Blaisdell Publishing Co., 1966). The results will have potential value for career guidance and counseling.

#### Research by Other Organizations and Agencies

Several organizations and agencies have completed studies concerned with the Idaho economy and educational program. Some studies have been designed specifically to determine vocational training needs, whereas others with a different main emphasis have had important implications for the vocational area. Many studies are not written up in report form, or, if a report is written, it is not given wide distribution. Thus, more research effort has been expended than is readily

apparent from a survey of available publications. It seems appropriate, therefore, to mention a few of the more salient examples of such research activities.

The Department of Employment, State of Idaho, was active in occupational research for several years prior to the formation of the Unit. County occupational surveys, wage and hour surveys, and the preparation of occupational guides for single occupations are examples of publications which have been issued by the Department for several years. More recently, the Manpower Development and Training Act gave the Department of Employment the responsibility of determining training needs for programs to retrain or upgrade workers in various skills. This new responsibility, plus additional funds to hire more research personnel, have resulted in studies of greater depth regarding labor force characteristics. Examples of recent studies which were concerned with training and placement needs are: "A Survey of Demand in Selected Metal Working Occupations for Major Areas of Idaho;" "Occupations in North Central Idaho, Trends and Outlook;" and "A Survey of Job Openings in the Idaho Falls Local Office." The publications have not been widely distributed because, due to certain technical and exploratory features, it seemed most appropriate to restrict their distribution to professional educators and other similarly qualified persons.

The Idaho Department of Commerce and Development has engaged in many activities over the years to promote the economic and industrial growth of the state. Recently a consulting firm was employed to study the state's economic structure and recommend different types of industries which might be attracted to Idaho. As of this date, the study is about half finished, and negotiations are underway to obtain funds for the continuation and eventual completion of the project. The Department recently issued a publication entitled "Idaho Industrial Opportunity," which covers 44 subjects in 12 categories of the state's economic life. The contents have potential value as a guide to more intensive studies of the labor force.

The University of Idaho, through its several colleges and departments, has produced a wealth of research publications over the years. Two examples may be cited which have implications for research in the vocational-technical area. An "Idaho Statistical Abstract," published by the Bureau of Business and Economic Research, College of Business Administration, contains statistics on population, education, vital statistics, income, employment, and many other subject areas. A publication entitled "Idaho Will Grow" traces the history of the state's major industries and predicts their futures. These and other publications provide useful bases for more intensive research oriented toward the needs of vocational educators. A publication directly related to the needs of distributive education was published recently, entitled "Identification of Major Tasks Performed by Merchandising Employees Working in Three Standard Industrial Classifications of Retail Establishments." The report was based on the work of a staff

member within the College of Education who was assigned part-time during the 1965-66 school year to the Research and Development Unit, Washington State University, Pullman, Washington. This same staff member is currently continuing and expanding this study in distributive education under a new grant to the University of Idaho.

Several public schools within the state have completed studies of labor market conditions in relation to their own vocational programs. Many high school programs in agriculture, home economics, trades and industries, and distribution have been adjusted to meet changing conditions in the community. Recently a notable expansion has occurred in office occupations offerings; the number of programs more than doubled from 19 to 47 during a recent two-year period. The area vocational schools, five in number, have conducted a significant amount of research as part of their ongoing educational programs. Advisory committees are used extensively to develop and up-date the program offerings--both for enrolled students and those in adult education programs. Two of the five area schools began operations during the last two years, and fairly extensive industrial surveys were completed prior to the establishment of their programs. The remaining schools have explored, and initiated, new programs requiring studies of employment requirements and opportunities for a variety of occupations. The results of such studies are recorded, and frequently find their way into reports submitted to the Idaho State Board for Vocational Education, but it has not been common practice to issue the results for general distribution.

The Idaho State Board for Vocational Education is responsible for the total program of vocational education in the state. The State Board, in addition to several administrative, executive, and supervisory duties, also engages in studies which are oriented toward conditions prevailing in the world of work. Recent examples are the formation of advisory committees for city fireman training, peace officer training, and exploratory studies relating to training programs for farm equipment mechanics. Training programs have been initiated and currently are underway for all three of these occupations.

#### DISCUSSION

The activities and accomplishments of the State Occupational Research Unit during the first 21 months of its existence have been reviewed. It is evident that some progress has been made toward all of the purposes and objectives stated in the original proposal which was funded by the U.S. Office of Education. This period of 21 months was, however, mainly a period of establishment and exploration. No one was certain at the outset what role the Unit should play and what might be accomplished in the research field. On the other hand, the purposes and objectives stated in the original proposal have proven to

be useful guides, and will serve a similar function as the Unit enters the new grant period of 19 months. Thus, no major changes are foreseen for the Unit. A few changes in emphasis do seem in order, however, and four of the most salient of these changes are presented and discussed in the remaining paragraphs of this section.

The first change in emphasis which may be expected is that the Unit will tend to reverse the earlier policy of engaging directly in research activities. As stated earlier, this seemed appropriate and necessary when the Unit was first organized. For the future, it seems that more emphasis should be placed on the major objectives of coordinating research, stimulating new research, and providing consulting services. It is obvious that the Unit can conduct only a small fraction of the research studies needed. The only apparent solution, therefore, is to involve other research personnel in the state to the maximum extent possible. The Unit will continue to conduct research, as ongoing projects are necessary to train vocational researchers and graduate assistants who may be assigned to the Unit. Extensive field surveys and similar projects which are removed geographically from the University of Idaho will be curtailed and eventually eliminated.

The second change in emphasis will be an attempt to bring about a critical evaluation of research efforts which have been underway in recent months. The main issue seems to be whether some of the research efforts detailed earlier in this report can be judged adequate, or if the vocational-technical program in Idaho requires an increase in this area. As noted earlier in this report, the Unit has had relatively little success in stimulating new research activities, and also little success in obtaining employment for qualified persons who would be assigned to vocational-technical research as their primary responsibility. The Unit staff believes that far more research emphasis is needed, and that the only way to realize an increase in research efforts is to employ the necessary research personnel. Vocational program offerings have been increased in the state in recent months, thus requiring the employment of additional instructional personnel. It may be more appropriate in the future to use available funds to hire research directors before further expansions are made in program offerings.

A third change, already in progress, is concerned with the Unit's role in the ongoing program of the College of Education at the University of Idaho. The Unit, if it is to continue within the College of Education, should relate and contribute to the College's major programs of research and teacher education. The entire program of the Unit should be enhanced if some graduate students within the College of Education undertake thesis research projects in the vocational-technical area. The need for research personnel noted in the preceding paragraph perhaps can be met most effectively by encouraging certain able students to do research in this area of education which can be continued and expanded after their formal education is complete.

Accordingly, graduate students assigned to the Unit as Research Fellows will be given the opportunity to use at least part of their work commitment for their own thesis research, provided that the project is congruent with the Unit's purposes and objectives. Data obtained in Unit research studies also may be made available to other graduate students who wish to use the data for thesis research. Currently, three staff members of the Unit are exploring the possibility of designing thesis projects within the Unit's overall research program. None are developed sufficiently as of this date to make possible a meaningful description in this report.

The fourth change, related to the third change discussed immediately above, pertains to the theoretical orientation of the research program of the Unit. Several studies conducted by the Unit have been surveys, with little if any relationship to a theory or to theoretical concepts. Some of these studies have been "bread and butter" types, oriented toward answering specific questions related to local educational needs. Such studies are appropriate and necessary, but they frequently do not yield useful knowledge which can be generalized beyond a specific local situation. Therefore, the Unit will tend to emphasize research projects which have a theoretical basis and/or which will yield results having utility beyond the specific situation or locale in which the project was completed. A good example of this type of research is the career choice and development study (see item n, page 39) recently begun by the Unit. This change in emphasis, plus the three changes already discussed, seem appropriate to the continued professional development of the Unit, and should make it more effective as the Occupational Research and Development Coordinating Unit for the State of Idaho.

### CONCLUSIONS

A State Occupational Research and Development Coordinating Unit has been established in Idaho at the University of Idaho. During its first 21 months, the Unit has made progress toward all of the purposes and objectives stated in the original proposal to the U.S. Office of Education. A large amount of research methodology has been developed and implemented in several studies. Many research projects conducted by the Unit and by other agencies and organizations have pointed the way to important changes in, and additions to, the vocational-technical program. The Unit has received recognition throughout the state and beyond, and is ready at this time to move into the new grant period with even greater contributions to the ongoing program of vocational-technical education in Idaho.

## SUMMARY

The Idaho Occupational Research and Development Coordinating Unit was established officially on June 1, 1965, and the original contract, scheduled to expire November 30, 1966, was extended through February 28, 1967. During this 21-month period, the Unit was guided by the following major purposes and objectives: (a) conduct occupational research, (b) coordinate research by other agencies and organizations, (c) stimulate new research, and (d) provide consulting services. Numerous methods of contact were used to acquaint other persons in the state with the Unit's program, purposes, and objectives. A number of research studies were completed by the Unit, either singly or in cooperation with other state agencies and organizations. A shortage of research manpower was noted as a major and continuing problem. The organization and establishment of the Unit are complete, and its continuation during the new grant period of 19 months seems both justified and necessary for the program of vocational-technical education in Idaho.

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Idaho State Occupational Research Unit, Idaho RCU

## ABSTRACT

The Idaho State Occupational Research Unit completed another 19 months of operation which, combined with the first 21-month period, constitutes a total life of 3 years and 4 months as of September 30, 1968. This is an interim report which views past accomplishments against the backdrop of the early months of establishment and operation, and which looks to the future role and function of the Unit as it enters a new 5-year continuation period.

The Unit has conducted several research projects either individually or in cooperation with other organizations and agencies. There were 14 projects either completed or in progress at the close of the first 21 months. Work continued on several of these projects during the last 19 months, and 5 new projects were organized. A total of 15 research publications have been issued, and more are in preparation.

The function and role of the Unit has been built around four major purposes and objectives relative to the program of vocational-technical education in Idaho: (1) conduct research, (2) coordinate research, (3) stimulate new research, and (4) provide consulting services. Progress has been made toward all of these, and they will continue to define the basic function and role of the Unit in the months and years ahead.